

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004921**Date Inspected:** 08-Dec-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Huang Wen Pang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG & Tower**Summary of Items Observed:**

The Caltrans (CT) Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

**OBG Sub-Assembly Bay 1:**

The QA Inspector randomly observed 2 Magnetic Drill Operators drilling bolt holes in U-Ribs U-18 through U-21 prior to forming.

The QA Inspector randomly observed ZPMC welders Xiang Huan Feng ID 039416/Xiang Jie ID 059378, (003/004) and Gao Xin Dong ID 054361/Teng Chuan Hong 059371, utilizing the Gas Metal Arc Welding (GMAW) Process in 2G Position on Gantry 2 with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2342-U-1(U-Rib)-4, to weld the U-Ribs to Deck Plate 9CW-DP124-002 Weld Joint (WJ) Numbers 003/004 and 007/008. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 380/360 amps, 30./30.8 volts (003/004); 362/378 amps, 30.6/30.4 volts with a travel speed of 527 millimeters (mm) per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed 4 ZPMC helpers utilizing angle grinders to blend the tack welds on Deck Plate 10AW-DP154-001.

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### OBG Sub-Assembly Bay 2:

The QA Inspector randomly observed 5 magnetic drill operators drilling bolt holes in Skin Plate Longitudinal Stiffeners piece marks p709 (N) and p637 (N) - A709 GR 345T-2 Material.

### OBG Sub-Assembly Bay 3:

The QA Inspector randomly observed ZPMC welder Jiang Jing Teng ID 046830, utilizing the Submerged Arc Welding (SAW) Process in 1G Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld the fill pass in the butt splice between Deck Plate Sub-Assembly sections at WJ CB205-001-012. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Shi Wei ID 053859, utilizing the Shielded Metal Arc Welding (SMAW) Process in 2F Position with ZPMC WPS WPS-B-T-2112, to weld the T-Ribs to Deck Plate DP669-001 at WJ's DP669-001-001/002. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

### OBG Sub-Assembly Bay 4:

The QA Inspector performed a 100% final Visual Testing (VT) on the cover pass of all welds and 10% Magnetic Particle Testing (MT) on the cover pass of the welds WJ's SSD1-SA369A/B-1,11,13, 14, 15, 16, 17; SSD1-SA369B/B-1, 2, 5, 6, 9, 10, 14, 15; SSD1-SA356A/B-11 on 53M (S) Double Tower Diaphragm. The QA Inspector randomly observed a gouge in one of the cutouts in the Upper Diaphragm SSD1-SA369. ZPMC welding personnel flipped the assembly over and repaired the area. There appeared to be no indications and the QA Inspector accepted all the above listed welds. The QA Inspector randomly observed that the final QA MT of the remaining welds had been completed by QA Inspector Lot Number B63 on 12-06-2008. The QA Inspector randomly observed ZPMC QC attach Green Tag 001558 to 53M (S) Tower Diaphragm. The attached photograph provides additional detail.

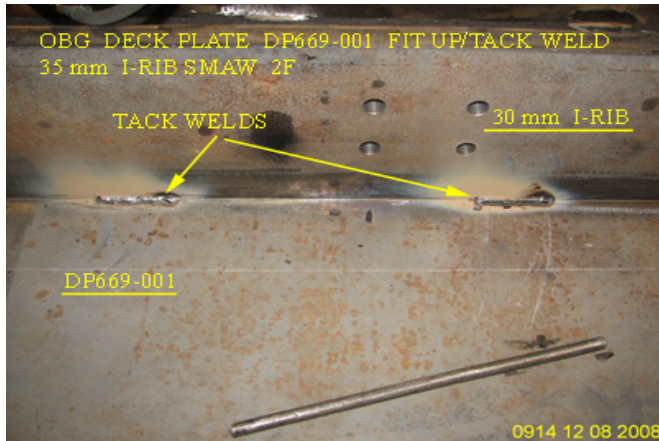
The QA Inspector performed a 100% final Visual Testing (VT) on the cover pass of the welds on Deck Plates DP665-001-001 through 006 and DP666-001-001 through 006. There appeared to be no indications and the QA Inspector accepted the VT of the above listed welds.

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### Summary of Conversations:

As noted in the above body of this report.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, 13764710411, who represents the Office of Structural Materials for your project.

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**Inspected By:** Franco,Charlie

Quality Assurance Inspector

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**Reviewed By:** Wright,Mark

QA Reviewer